REMARKS

Entry and consideration of the foregoing amendments is respectfully requested.

The Commissioner is hereby authorized to charge any appropriate fees under 37 C.F.R. §§1.16, 1.17, and 1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No. 50-1283.

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Enclosure: Appendix indicating Amendments

Appendix Showing Amendments to the Claims

38. ~~A haptic feedback stylus device in communication with a host computer running a host application program, the stylus~~An apparatus, comprising:

a stylus ~~member physically contacted by a user and~~ configured to be manipulated against a surface~~by said user, said stylus member~~ and configured to be held ~~between fingers of said~~in a hand of a user;

~~at least one~~a sensor ~~operative~~configured to send sensor signals to a host computer based on a~~detect said~~ manipulation of ~~said~~the stylus ~~member~~ against ~~said~~the surface ~~and output sensor signals representative of said manipulation to a said host computer~~; and

an ~~computer controlled~~ actuator coupled to ~~said~~the stylus ~~member~~ and ~~operative~~configured to apply a ~~modulated force~~haptic feedback from ~~a tip portion of~~ ~~said~~the stylus ~~member~~ against ~~said~~the surface ~~on which said stylus is manipulated~~.

39. ~~A haptic feedback stylus as recited in~~ The apparatus of claim 38, wherein ~~said~~the actuator ~~extends a~~ is configured to modify the length of ~~said~~the stylus ~~member by moving said tip portion against said surface~~.

40. ~~A haptic feedback stylus as recited in~~ The apparatus of claim 38, ~~wherein~~further comprising a power source ~~for said actuator is housed~~disposed within ~~said~~the stylus ~~member~~.

41. ~~A haptic feedback stylus as recited in~~ The apparatus of claim 40, wherein the power source includes a battery.

42. ~~A haptic feedback stylus as recited in~~ The apparatus of claim 38, wherein ~~said~~the actuator ~~ean~~is configured to produce a plurality of force sensations, ~~said~~the plurality of force sensations including a vibration, a jolt, and a texture.

43. ~~A haptic feedback stylus as recited in~~ The apparatus of claim 38, wherein ~~said~~the actuator includes a voice coil.

44. ~~A haptic feedback stylus as recited in~~ The apparatus of claim 38, wherein ~~said~~a tip portion of the stylus member includes a rotatable ball.

45. ~~A haptic feedback stylus as recited in~~ The apparatus of claim 44, wherein ~~said~~the actuator is ~~a braking actuator that applies~~configured to apply resistance against ~~said~~the rotatable ball.

46. ~~A haptic feedback stylus as recited in~~ The apparatus of claim 44, wherein ~~said~~the actuator is a solenoid.

47. ~~A haptic feedback stylus as recited in~~ The apparatus of claim 38, wherein ~~said braking~~the actuator ~~can be pulsed~~is configued to vibrate at a high frequency ~~to create a passive sensation that feels like a vibration to said user~~.

48. ~~A haptic feedback stylus as recited in~~ The apparatus of claim 38, wherein ~~said~~the ~~at least one~~ sensor is ~~included~~disposed within ~~in said~~the surface ~~that can be contacted by said stylus~~.

49. ~~A haptic feedback interface device in communication with a host computer running a host application program, the interface device~~An apparatus, comprising:

a ~~user manipulatable object physically contacted by a user and to be manipulated by said user, wherein said manipulation of said~~stylus;

~~is detectable by at least one~~a sensor in communication with ~~a~~the host computer, the sensor configured to detect a movement of the stylus; and

an ~~computer controlled braking~~actuator coupled to ~~said user manipulatable object and operative to apply~~the stylus, the stylus configured to vibrate at a high frequency by applying a modulated force ~~on said user manipulatable object,~~to the stylus ~~wherein said braking actuator is pulsed at a high frequency to create a passive sensation on said user manipulatable object that feels like a vibration to said user as said user maipulatable object is moved by said user~~.

50. ~~A haptic feedback interface device as recited in~~ The apparatus of claim 49, wherein ~~said~~the modulated force is applied to a rotating member of ~~the user manipulatable object~~the stylus.

51. ~~A haptic feedback interface device as recited in~~ The apparatus of claim 50, wherein ~~said~~the rotating member is a rotatable ball against which ~~a portion of said braking member is pulsed~~the modulated force is applied.

52. ~~A haptic feedback interface device as recited in~~ The apparatus of claim 51, wherein ~~said user manipulatable object is an elongated stylus member~~the stylus is configured to be held ~~between fingers of said user, said stylus member to be manipulated against a surface by said user~~in a hand.

53. ~~A haptic feedback interface device as recited in~~ The apparatus of claim 52, wherein ~~said~~a tip portion of the stylus includes ~~said~~the rotatable ball, ~~such that siad stylus can~~the stylus confiugured to contact ~~said~~a surface by the rotatable ball of the stylus.

54. ~~A haptic feedback interface device as recited in~~ The apparatus of claim 52, wherein ~~said braking~~the actuator is a solenoid.

55. A method ~~for providing haptic feedback to a user of a haptic feedback interface device in communication with a host computer, the method~~ comprising:

sensing ~~manipulation of a user manipulatable object physically contacted by a user, wherein said manipulation of said~~ a movement of a stylus to produce a sensed signal ~~is reported to said host computer; and~~

sending a movement signal to a host computer based on the sensed signal; and

applying a modulated force ~~on said user manipulatable object using a computer controlled braking~~ from an actuator ~~coupled to said user manipulatable object,~~ to the stylus ~~wherein said braking actuator is pulsed at a~~ sufficiently in response to the movement signal, the modulated force being associated with a high-frequency ~~to create a passive sensation on said user~~

~~manipulatable object that feels like a~~ vibration ~~to said user as said user manipulatable object is moved by said user~~.

56. ~~A~~The method ~~as recited in~~of claim 55, wherein ~~said user manipulatable object is an elogated~~ the stylus ~~member~~is configured to be held ~~between fingers of said user, wherein said stylus member is manipulated~~in a hand and moved against a surface ~~by said user~~.

57. ~~A~~The method ~~as recited in~~of claim 56, wherein ~~said~~the stylus member includes a rotatable ball in a tip portion of the stylus member, ~~wherein said braking~~ the actuator ~~applies a~~being configured to apply the modulated force to ~~said~~the rotatable ball while ~~said user moves said tip portion of said~~the stylus ~~over said~~is disposed adjacent to the surface.